

Amendments to and Listing of the Claims:

Please amend claims 2-4 and add new claims 5-9, so that the claims read as follows:

1. (Previously Presented) A lubricating oil composition for automatic transmissions wherein the mass ratio of phosphorus : calcium : boron : sulfur determined by elemental analysis is 1 : (0.1 to 2) : (0.06 to 2) : (0.2 to 20), the concentration of phosphorus is from 0.01 to 0.06 percent by mass, the concentration of the sulfur derived from a base oil is from 0 to 0.1 percent by mass, and the concentration of the sulfur derived from sulfur-based additives is from 0.01 to 0.15 percent by mass, based on the total amount of the composition.

2. (Currently Amended) The lubricating oil composition according to claim 1 wherein the mass ratio of phosphorus : calcium : boron : sulfur determined by elemental analysis is 1 : (0.1 to 1) : (0.1 to 0.8) : (0.4 to 5), the concentration of phosphorus is from 0.02 to 0.05 percent by mass, ~~the concentration of the sulfur derived from a base oil is from 0 to 0.1 percent by mass, and the concentration of the sulfur derived from sulfur-based additives is from 0.01 to 0.15 percent by mass,~~ based on the total amount of the composition.

3. (Currently Amended) The lubricating oil composition according to claim 1 wherein said sulfur-based additive is at least one compound selected from the group consisting of (A) thiadiazoles and/or benzothiadiazoles, (B) dithiocarbamates, (C) dithiophosphates, (D) tri thiophosphites, (E) polysulfides, and derivatives of (A) ~~through~~ through (E).

4. (Currently Amended) The lubricating oil composition according to claim 2, wherein said sulfur-based additive is at least one compound selected from the group consisting of (A) thiadiazoles and/or benzothiadiazoles, (B) dithiocarbamates, (C) dithiophosphates, (D) tri thiophosphites, (E) polysulfides, and derivatives of (A) ~~through~~ through (E).

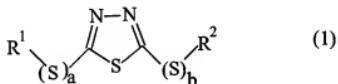
5. (New) A lubricating oil composition for automatic transmissions which comprises phosphorus-based additives, calcium-based additives, boron-containing additives and sulfur-based additives other than thiadiazoles, metal dithiocarbamates and metal dithiophosphates, wherein the mass ratio of phosphorus : calcium : boron : sulfur determined by elemental analysis is 1 : (0.1 to 2) : (0.06 to 2) : (0.2 to 20), the concentration of phosphorus is from 0.01 to 0.06 percent by mass, the concentration of the sulfur derived from a base oil is from

0 to 0.1 percent by mass, and the concentration of the sulfur derived from sulfur-based additives is from 0.01 to 0.15 percent by mass, based on the total amount of the composition.

6. (New) The lubricating oil composition for automatic transmissions according to claim 5, wherein said sulfur-based additive is at least one compound selected from the group consisting of (A) benzothiazoles, (B) dithiocarbamates other than metal dithiocarbamates, (C) dithiophosphates other than metal dithiophosphates, (D) trithiophosphites, (E) polysulfides, and derivatives of (A) through (E).

7. (New) A lubricating oil composition for automatic transmissions which comprises phosphorus-based additives, calcium-based additives, boron-containing additives and (A) thiadiazoles or derivatives thereof, wherein the mass ratio of phosphorus : calcium : boron : sulfur determined by elemental analysis is 1 : (0.1 to 1) : (0.06 to 0.8) : (0.2 to 20), the concentration of phosphorus is from 0.01 to 0.06 percent by mass, the concentration of the sulfur derived from a base oil is from 0 to 0.1 percent by mass, the concentration of the sulfur derived from said component (A) is from 0.01 to 0.15 percent by mass, and said component (A) is contained in an amount of less than 0.2 percent by mass, based on the total amount of the composition.

8. (New) The lubricating oil composition for automatic transmissions according to claim 7, wherein said thiadiazoles are compounds represented by formula (1):



wherein R¹ is a straight-chain or branched alkyl group having 1 to 30 carbon atoms, R² is hydrogen or a straight-chain or branched alkyl group having 1 to 24 carbon atoms, a and b are each independently 1, 2 or 3.

9. (New) The lubricating oil composition for automatic transmissions according to claim 7, wherein the mass ratio of phosphorus : calcium : boron : sulfur determined by the elemental analysis is 1 : (0.1 to 1) : (0.06 to 0.8) : (0.4 to 5), based on the total amount of the composition.

REMARKS

Claims 1-9 are presently pending in the application.

Claim 2 has been amended to delete some redundant subject matter, and claims 3 and 4 have been amended to correct a typographical error. New claim 5 is supported in claim 1 and in the specification at least at page 5, lines 4-24, and new claim 6 is supported in the specification at least at page 5, lines 4-10, page 8, last 3 lines to page 9, line 4, and at page 10, last 4 lines to page 11, line 6. Claim 7 is supported at least at page 4, line 9 to page 5, line 24 and in Examples 2 and 4, and claim 8 is supported at least at page 7, lines 17-24. Finally, new claim 9 is supported at least at page 4, line 9 to page 5, line 3. No new matter has been added by these amendments, and entry is respectfully requested.

In the Office Action, the Examiner has rejected claims 1-4 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,617,286 of Sato (“Sato”). Further, claims 1-4 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,121,209 of Watts et al. (“Watts”) in combination with a literature reference to Smalheer et al. (“Smalheer”). Finally, claims 1-4 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,443,744 of Bloch et al. (“Bloch”) in view of Smalheer. Applicant respectfully traverses these rejections and the arguments in support thereof as follows, and respectfully requests reconsideration and withdrawal of the rejections.

The Presently Claimed Invention

The purpose of the presently claimed invention is to provide a lubricating oil composition for automatic transmissions which is capable of sustaining excellent μ -V characteristics that are always maintained in a positive gradient, even after the composition has been used in a belt-type CVT (continuously variable transmission) for an automobile for a long period of time. Such a positive gradient will prevent the occurrence of scratch noises.

Previously, it was found that in automobiles having belt type CVTs, the CVTs made scratch noises due to a fluctuation in the rotation of the driven pulley when starting the automobile. Such a fluctuation occurs when the change in the friction coefficient (μ) between